



# Safety and Operational Study of Route 15 (James Monroe Highway) Between South Town Limits of Leesburg and Prince William County Line

Virtual Public Input Meeting Presentation  
July 2020

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Welcome to the Route 15 South Safety and Operational Study, which is focused on Route 15 between the Southern Town Limits of Leesburg and the Prince William County Line. I am Paul Anderson, the Project Manager for the consulting firm AECOM. Our team is working with the Loudoun County Department of Transportation and Capital Infrastructure, DTCl, to lead the evaluation of this roadway. The Route 15 South corridor is vital to the transportation, economy, culture and history of Loudoun County. We would normally hold this meeting with you face to face, but due to restrictions related to the COVID-19 pandemic, we are holding this meeting electronically. Our goal is to obtain critical feedback from those who use the roadway and are most impacted by it. By joining us today, you will improve our study and shape the future of Route 15 South.





# Agenda

- Welcome/Introductions
- COVID-19 Disclaimer
- Study Goals
- Study Area Overview
- Study Scope and Schedule
- Existing Conditions Analysis
- Community Engagement
- Survey and Map Exercise
- Next Steps

This presentation provides a brief background on the Study, including its goals, methodology, early findings, and scope and schedule. This 10-minute slide show will provide context and information that will help you help us understand what aspects of the corridor are most important to you, both now, and in the decades to come. So let's get moving!





# COVID-19

The first public input meeting for the Route 15 South Safety and Operational Study will be conducted in a virtual manner due to COVID-19 restrictions and pursuant to the ordinance adopted by the Loudoun County Board of Supervisors on April 15, 2020.

This meeting will be conducted in a virtual manner due to COVID-19 restrictions and pursuant to the Continuity of Operations Ordinance adopted by the Loudoun County Board of Supervisors on April 15, 2020. In these challenging times, the County has been doing its best to move forward on all priority tasks, especially those that impact safety and quality of life.



# Route 15 South Study Goals



- Assess existing safety and traffic operations.
- Engage Focus Group and Community in interactive public meetings.
- Develop and evaluate phased improvement concepts for short, medium, and long-term needs.

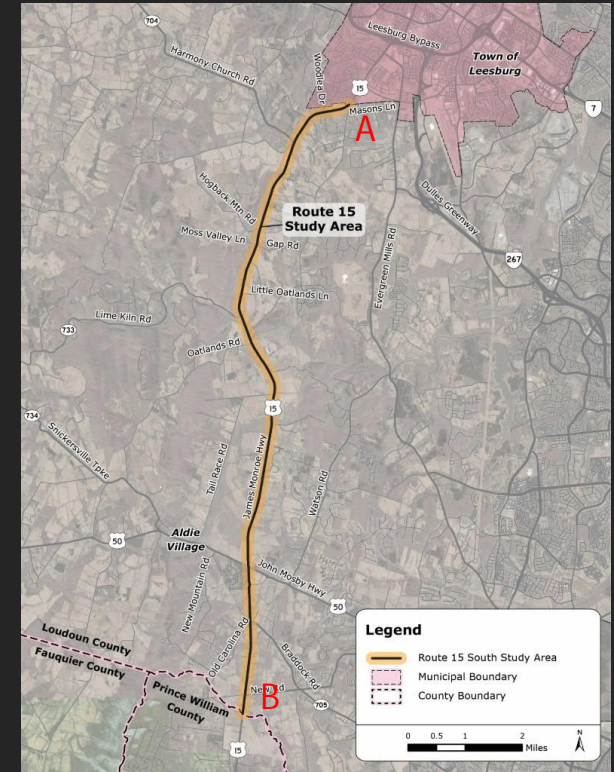
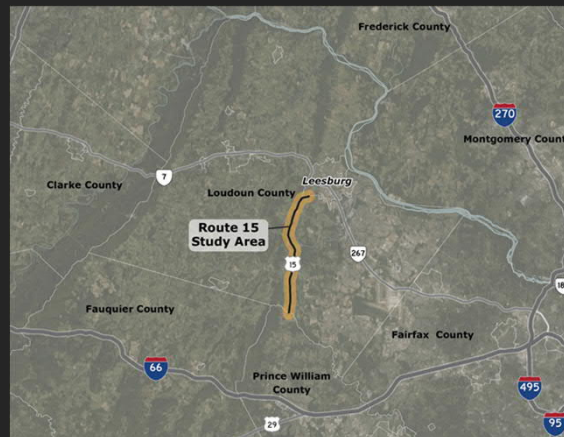


The goals for this study are relatively simple to state but not as easy to achieve. The Loudoun County Board of Supervisors and each of you knows the importance of this roadway from both the transportation and quality of life impact. The Board tasked the DTCl to perform a study that would evaluate the current conditions from both the safety and operational efficiency for this corridor. We need to understand how the corridor operates and where deficiencies and trouble spots exist. Extensive input and feedback from the Loudoun County citizens and other stakeholders is deemed critical to making that evaluation thorough and complete, and to address the factors that are not measurable or quantifiable yet very important to the overall impact of Route 15 South on those who live nearby and travel it. Finally, the study is intended to identify and develop conceptual improvements that can address specific safety or traffic hot spots, while also looking ahead at phased improvements that can ensure this facility serves the needs and enhances travel in this unique section of the County for years to come.



# Route 15 South Study Area

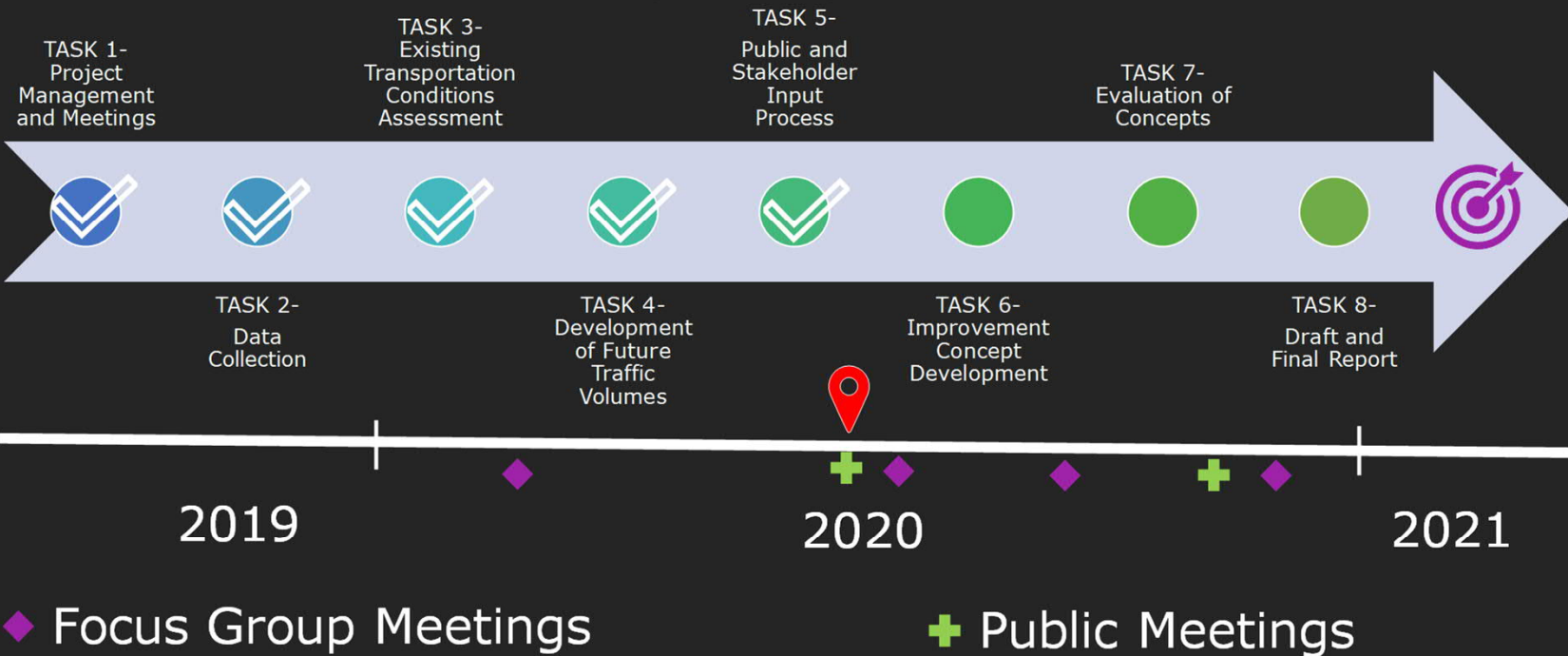
- Location: Loudoun County, VA
- Length: Approx. 12 miles
- Limits: Leesburg Southern Town Line(A) to Prince William County Line (B)



The Study area comprises approximately 12 miles of Route 15 between the Southern Town Limits of the Town of Leesburg (denoted with an A on the map) and the Prince William County Line at Bull Run (marked with a B).



# Route 15 South Study Scope and Schedule



The general Study scope and schedule are reflected on this timeline. The work began in late August of 2019, and to date has included planning and coordination, data collection, field visits and assessments of existing conditions, and preliminary forecasts of future traffic for the year 2040. This work led to the initiation of the critical Public Input Process and the first meeting of the Study Focus Group. This group is comprised of individuals identified by County officials based on their knowledge of the Corridor and leadership in the community and connection to multiple groups of citizens, property owners, and businesses for whom Route 15 South is important. That meeting occurred on February 26<sup>th</sup>, 2020 and provided our team with valuable comments and feedback that formed the framework for this Public Input Meeting. The red pin indicates roughly where the project currently stands; we will use the input received through the Public Input process to shape the development and evaluation of short, medium, and long-term improvement concepts for the corridor. These recommendations will be presented to the Focus Group members and interested citizens for their review and comment. Based on the engineering studies and the public feedback, preferred alternatives will be refined and presented to the Board of Supervisors in a Draft and Final report that is expected to be completed in early 2021.



# Intersection Field Review



- Site Visits October 2019
  - Photos
  - Videos
  - Measurements
  - Observations
- Turn Lanes and Tapers
- Traffic Control Devices
- Pavement Markings
- Sight Distance

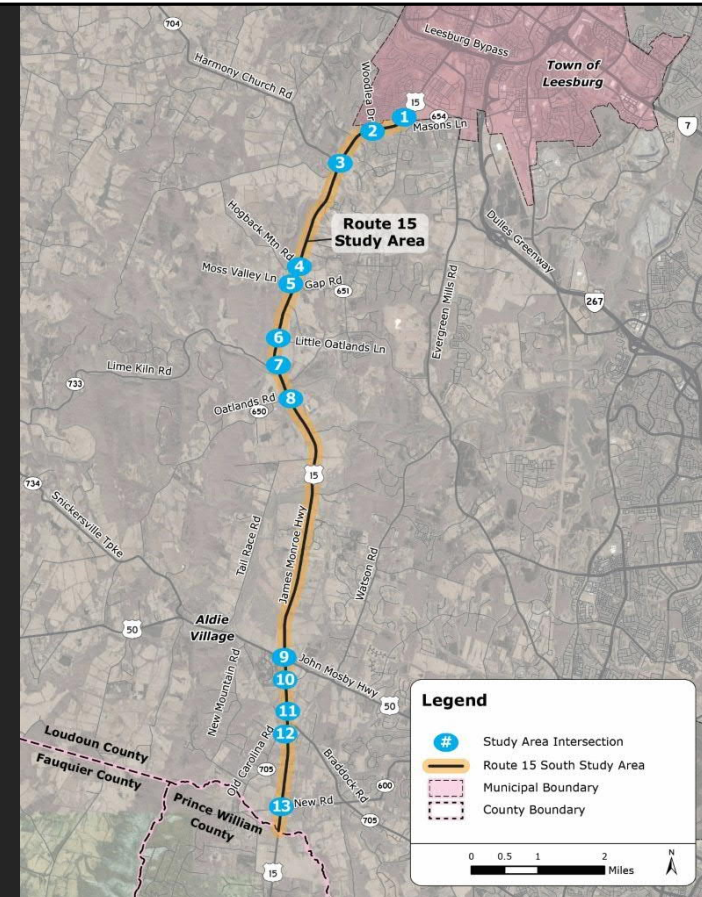


The study team conducted field reviews along the entire corridor and at each of those intersections we documented and confirmed the current conditions, the configuration of roadway features and location and types of signs and traffic control devices. These visits also provided first hand observations of traffic flow and challenges such as sight distance or shoulder conditions.



# Study Intersections

1. Masons Lane
2. Emerald Park Drive
3. Harmony Church Road
4. Hogback Mountain Road
5. Moss Valley Lane
6. Little Oatlands Lane
7. Lime Kiln Road
8. Oatlands Road
9. Route 50 (John Mosby Highway)
10. Howsers Branch Drive
11. Braddock Road
12. Old Carolina Road
13. New Road



Let's take a closer look at what the early review has covered. Thirteen (13) intersections within the corridor shown on the map were considered as the most significant and worthy of detailed evaluation.

Eight (8) of these intersections are located in the northern half of the project, primarily in the more developed sections and at a few key roads north of Goose Creek. The remaining five (5) intersections are between Route 50 and the Prince William County Line, a segment with several roundabouts and significantly higher levels of traffic.





# Physical Features & Geometry

- Lane Width
- Shoulder Type/Width
- Guardrail Location
- Horizontal & Vertical Curves
- Signs & Pavement Markings



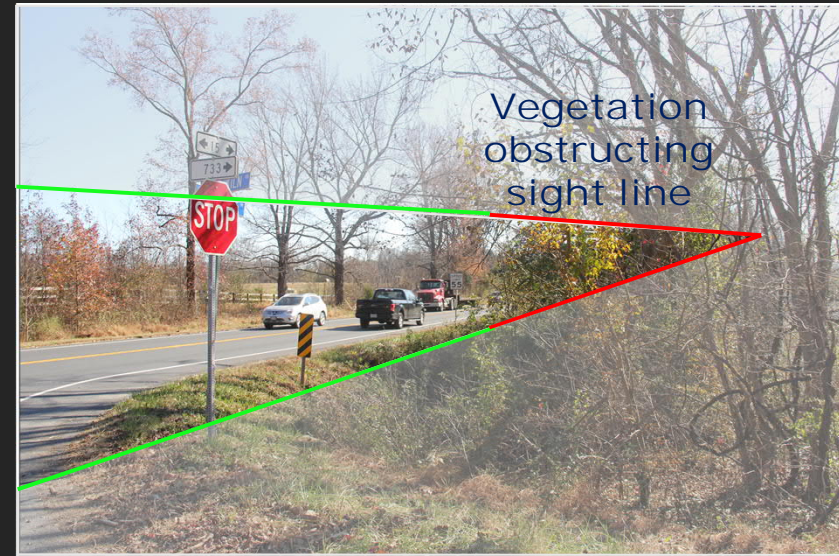
Our team also collected detailed information about the roadway alignment, grades, signage, guardrail, passing zones and turn lanes that physically affect both travel and safety along the corridor.





# Roadway Feature Analysis

1. Sight Distance
2. Guardrail
3. Shoulders
4. Signs
5. Entrance Spacing
6. Rumble Strips & Markings
7. Turn Lanes & Tapers
8. Horizontal/Vertical Curves



Observations of deficiencies or features that warranted attention, such as reduced sight distance due to vegetation or missing or faded pavement markings, were noted and compiled and shared with the Virginia Department of Transportation (VDOT), which is responsible for the maintenance and improvements along Route 15.





# Traffic Data Collection

- Counts conducted early Sept. 2019
  - Automatic Traffic Recorders (ATRs)
    - 7 days, 24 hours
    - Pneumatic Tubes and Video
    - Vehicle Classification and Speed
  - Turning Movement Counts (TMCs)
    - AM, PM, Saturday mid-day
    - 4 hour Count Periods

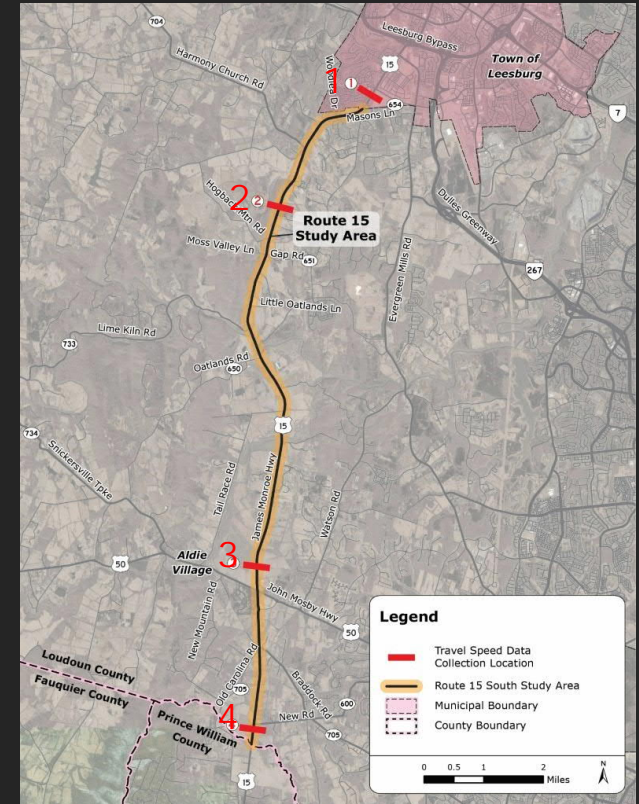


In addition to the field visits, extensive traffic data was collected in early September of 2019 to provide relevant information that can be used to quantify the flow of traffic, the delays that occur and the locations that are most congested during typical weekday morning and evening peak periods. In addition, the study team collected data on a Saturday mid-day peak since this section of the County is home to several wineries, historic sites, equestrian centers and other tourist related attractions. Both turning movement counts from video and 24-hour machine counts for speed, vehicle classification and variation of travel through the day and throughout the week were obtained, compiled and summarized.



# Traffic Operations - Travel Speeds

- Location 1-Just South of Battlefield Parkway SE:  
Posted Speed Limit: 45 MPH 85<sup>th</sup> Percentile Speed: 49 MPH
- Location 2-Just North of Hogback Mountain Road:  
Posted Speed Limit: 55 MPH 85<sup>th</sup> Percentile Speed: 59 MPH
- Location 3-Just North of Route 50:  
Posted Speed Limit: 55 MPH 85<sup>th</sup> Percentile Speed: 59 MPH
- Location 4- Just South of New Road:  
Posted Speed Limit: 55 MPH 85<sup>th</sup> Percentile Speed: 53 MPH



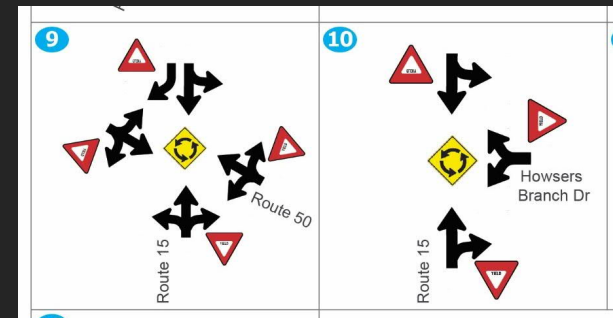
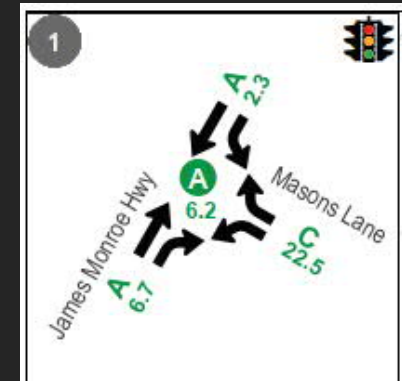
At four locations, the travel speed was measured and the 85<sup>th</sup> percentile speed determined compared to the posted legal speed limit. The 85<sup>th</sup> percentile speed is often used to represent the “typical” prevailing speed for traffic studies and represents the speed above which only 15% of vehicles are travelling. The graphic here shows that at each of the locations, the 85<sup>th</sup> percentile speed was within 4 miles of the posted speed. This indicates a reasonably high level of speed limit compliance within the study area. The design team will consider the impact on travel speeds for any proposed improvement alternatives.



# Traffic Operational Analysis-Intersections



- Lane Use Maps
- Traffic Volume Maps
  - Weekday AM & PM peak hour
  - Saturday peak hour
- Delay & Level of Service (LOS) Maps
- Queue Maps



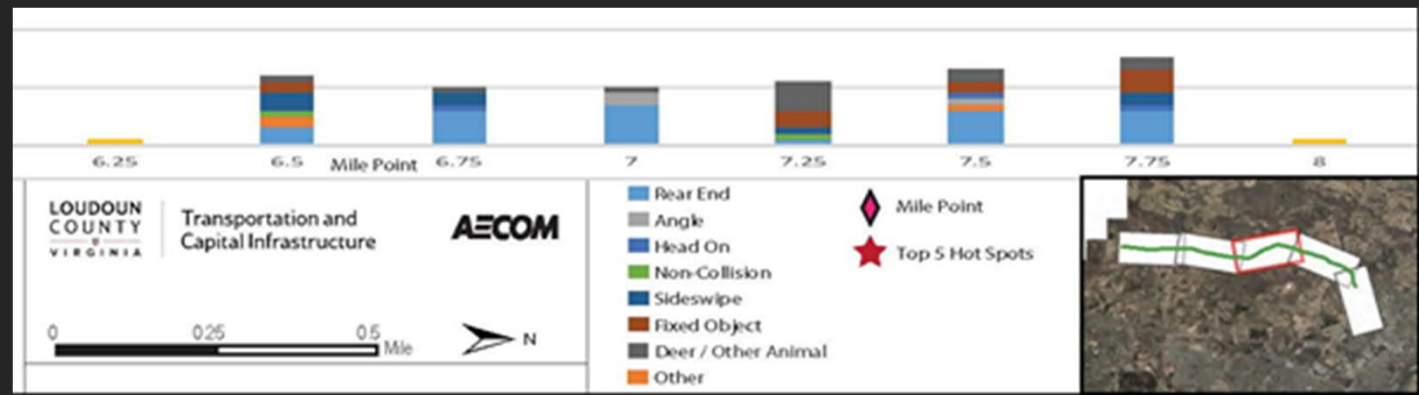
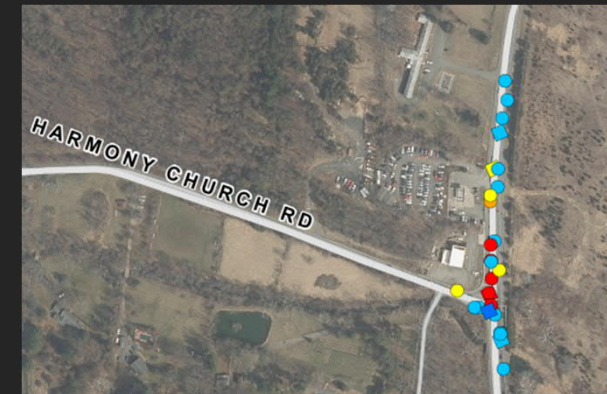
The configuration and geometry of each of the major study intersections was documented, and the Level of Service was determined for the AM, PM, and Saturday midday peak hours. Level of Service assigns a grade from A (best conditions, minimal delay) through F (very poor flow and significant delays and backups). Level of service has been calculated for each turning movement, approach and the overall intersection for each of the 13 studied intersections.





# Crash History

- VDOT Database (2014-2019)
- Location
- Date and Time
- Severity
- Type

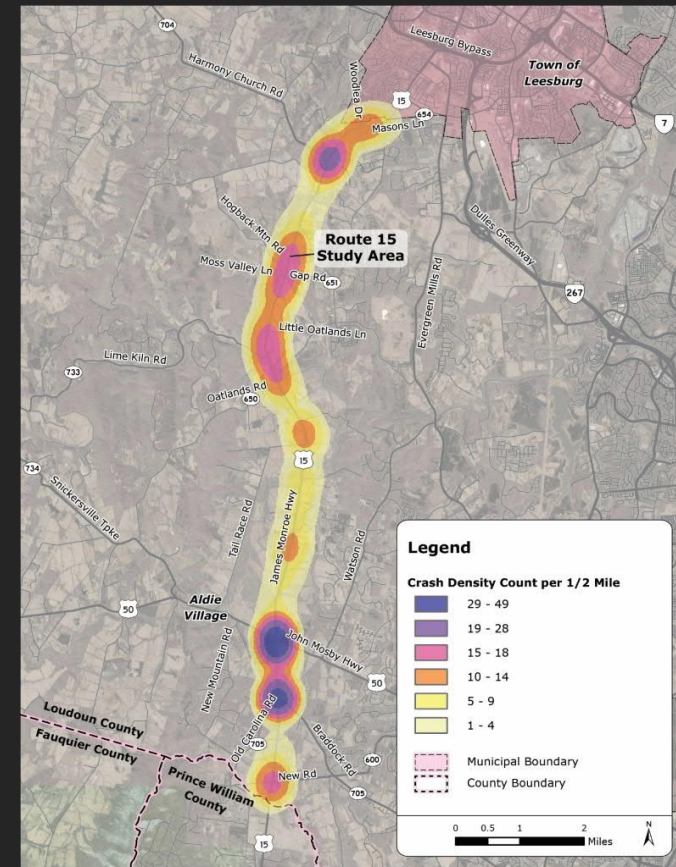
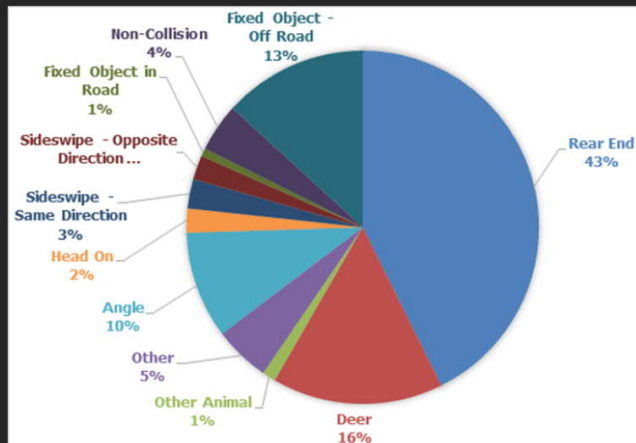


VDOT Crash Data for the five years from 2014 to 2019 was obtained and analyzed to determine if the patterns and trends indicated areas where crashes were significantly higher; these areas are called "hot spots". This analysis also provides clues as to the probable contributing factors to these crashes that are very important for developing countermeasures to reduce or eliminate those factors to prevent crashes and lessen their severity. The study team created crash summaries for each 1/4 mile segment of the study area that show the number, type and location of crashes during the past five years.



# Safety Analysis

- Crash Heat Maps
- Crash Data Trends
- Crash Type Charts
- Crash Location Maps



From this crash data, we also created charts and graphs showing how crashes vary by time of day, day of the week, month to month, year to year, as well as, crash type. The top crash types are rear end (43%), deer (16%) and fixed object off road (13%). Crash density was plotted as well, revealing several hot spots along the corridor, as shown in the darker pink and purple spots on the accompanying graphic.

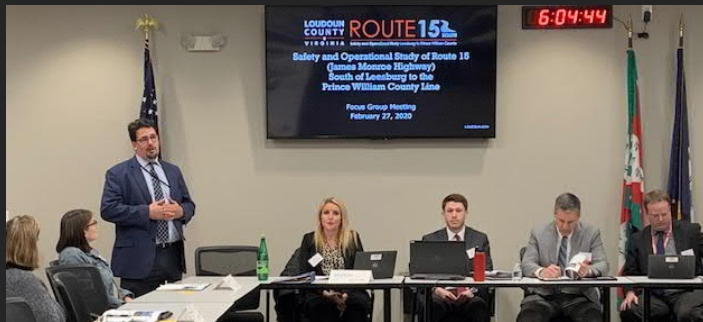




# Community Engagement

Our goal is to provide multiple opportunities for meaningful public input throughout the study, including:

- Focus Group meetings
- Public Input meetings
- Website updates
- Public survey



Clearly, we have collected a lot of data and have numbers that help us identify important factors about Route 15 South. Through this Virtual Public Input process, we want to hear from you about your experiences and impressions as you travel this corridor. The first Focus Group Meeting gave us a great start, and now it is your turn to weigh in.



# Map Exercise and Survey



**ROUTE 15 SOUTH**  
Safety and Operational Study Leesburg to Prince William County

**Activity Instructions**

- 1) **Explore the study area:** Click and drag your cursor to pan the map, and use the scroll (+/-) buttons to the left to zoom in and out.
- 2) **Select your feedback type:** Click 'Add to the Map!' in the blue bar below and choose a category from the options presented.
- 3) **Add it to the map:** Click once to drop a point on the map, and add a comment if you wish.
- 4) **Click 'Submit':** You will have five minutes to make any changes to your comment.

About & Help ▾ Add to the Map! Share 0 Guest | Draft Project

300 m  
1000 ft

mapbox

WikiMapping | Mapbox | OpenStreetMap | Improve this map

## **ROUTE 15 SOUTH** Public Input Survey

Safety and Operational Study Leesburg to Prince William County

### **PRIORITIES (continued)**

2. Please designate your TOP 3 concerns about Route 15 South today, with "1" being your HIGHEST CONCERN.

- |  |       |
|--|-------|
| a. Car speed   | _____ |
| b. Truck speed   | _____ |
| c. Vehicle passing   | _____ |
| d. Access from driveways   | _____ |
| e. Access from intersecting roads                                    | _____ |
| f. Turn lane needed  | _____ |
| g. Roadway conditions (i.e., lane width, shoulders, guardrails)      | _____ |
| h. Roadway maintenance issues (i.e., vegetation, pavement condition) | _____ |
| i. Other concern:  | _____ |

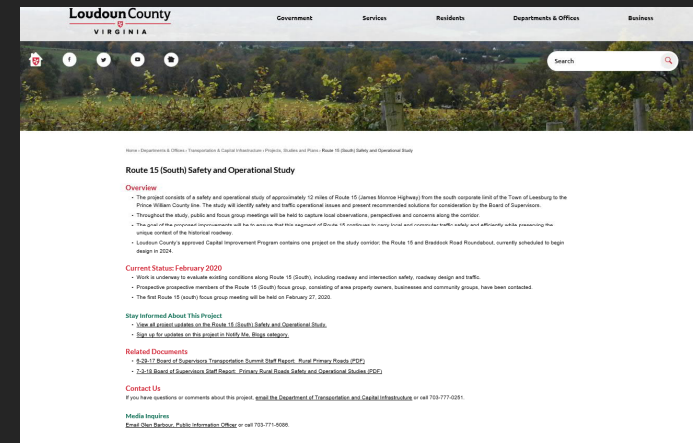
On the project website, [Loudoun.gov/route15south](http://Loudoun.gov/route15south), you can participate in a Map Exercise highlighting your experience on the corridor and take a short survey to provide feedback on the corridor. These tools are available for you to provide both detailed comments about locations that cause you concern, make you feel unsafe or make you smile as you travel through them. The survey allows you to provide broader or general comments that reflect what you think or feel about the overall corridor and how you would like to see it maintained, preserved or improved. If you haven't already done so, please participate in both the Map Exercise and the survey once this presentation is complete.



# Study Resources & Communication



- Study Website
  - [loudoun.gov/route15south](http://loudoun.gov/route15south)
- Sharing Information
  - Share with the community and your organization
- County Resources
  - Subscribe for updates
- Communication
  - Email: [Route15@Loudoun.gov](mailto:Route15@Loudoun.gov)



More information about the study is available on the project webpage at [www.loudoun.gov/route15south](http://www.loudoun.gov/route15south). This includes preliminary information regarding the safety analysis, the existing conditions tables and the traffic volumes and level of service results.





# Next Steps

- Public Input Meeting Survey Available: July 13-31, 2020
- Online Question & Answer via WebEx: July 30, 2020
- Summarize Public Feedback
- Finalize Existing Conditions Analysis
- Development of Improvement Concepts
- Focus Group and Public Meetings
- Evaluation of Improvement Concepts and Draft Report
- Board of Supervisors and Public Feedback
- Final Report



There is more to come. Based on the feedback from this Public Input Meeting, we will provide a live online Q&A session on July 30, from 6-8 p.m. where you will have an opportunity to ask questions to the study team. You can ask questions in several ways – please use the Ask a Question form, sign-up to ask a question live during the Q&A session or email your question to [route15@loudoun.gov](mailto:route15@loudoun.gov). There will also be an opportunity to ask questions by chat function during the Q&A session. Please plan to join us then if you are able. A recording of the Q&A session will be posted on the project page following the event.

We will continue to collect and synthesize data and develop improvement concepts and the draft report. You can sign-up to be informed of future Public Input Meeting on the project page. As a reminder, the Final Report is expected in early 2021.





# Thank You!

For more information:  
[loudoun.gov/route15south](http://loudoun.gov/route15south)  
[route15@Loudoun.gov](mailto:route15@Loudoun.gov)  
(703) 777-0251

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Finally, on behalf of the Board of Supervisors, the DTCL staff, and the Study Team, a sincere thank you for taking the time and effort to make the study better and Route 15 South safer!